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ABSTRACT

This paper presents the results of a doctoral dissertation study that examined professional practice characteristics in connection with expressed continuing professional education (CPE) needs among licensed landscape architects. Out of the 650 surveys sent to landscape architects across the United States, 336 were returned. The survey found that gender which has been rarely investigated in the CPE literature, appeared to be of greater influence than other individual variables on needs assessment measures conducted with learners across all three scales in the study. It also found that age and years of practice had little influence beyond measuring current level of competence, and that region and location had little influence on perceived CPE needs. The study highlights the importance of the cultural variables related to practice setting. Further, the study identifies a relationship between demographic variables and commonly used assessment scales. (Contains 23 references.) (MDM)

FACTORS AFFECTING EXPRESSED CONTINUING PROFESSIONAL EDUCATION NEEDS AMONG LANDSCAPE ARCHITECTS: AN EXPLORATORY STUDY

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Introduction

This paper briefly presents a portion of the results of a doctoral dissertation study. The primary purpose of the study was to examine professional practice characteristics in connection with expressed continuing professional education (CPE) needs among licensed landscape architects in the United States, as an exploratory study of changing models for effective continuing professional education.

Theoretical Framework

Many research studies have shown that formal continuing education is used by professionals much less than self-directed and self-planned learning (Matthias, 1992; McCatty, 1975; Price, Fox, & Blanchard, 1991: Rymell, 1981). This supports the individual character of professionals (Cervero, 1988); in fact, Houle (1981) notes that "the primary responsibility for learning should rest on the individual" (p. 304).

Baskett (1993) reports that traditional views of formal learning in CPE have been challenged by an "inside-out model" in which the learner is an active interpreter of learning based on experience, personality, gender, culture, and environment. One example is the learning-from-practice model based on the assumption that the goal of professional practice is wise action acquired from practice (Cervero, 1990). A second example, more

detailed in approach, is the performance model which incorporates a "double helix" of cultural and individual developmental variables to move the concept of CPE beyond "the potential of competence" to "the reality of performance" (Nowlen, 1988, p. xii). While this model is based in Nowlen's studies of professionals, research to date has not investigated its appropriateness using large samples across the broad range of practice in a profession.

Although he did not include them in the graphic representation of the Performance Model, Nowlen (1988) described two sets of demographic variables, which he called a double helix of performance. Nowlen identified these variables, which work with the topic areas in guided self-assessment and which influence effective CPE program planning, as individual and cultural variables. This study worked from the theoretical model to collection and analysis of data from a group of professionals -- licensed landscape architects in the United States.

A substantial body of research in continuing health education has investigated variables considered predictors of participation in CPE in two relevant areas--demographic characteristics of clientele and perceived relevance of the educational topic (Beach, 1982; Brown & Brown, 1982; Curran, 1977; McLeod, 1979; Richardson & Sherwood, 1983; Smith, Ross, &

Smith, 1980; Studdy & Hunt, 1980). The findings identify personal and professional characteristics which influence content and format preferences, although the results are mixed (Kristjanson & Scanlan, 1992). These variables include age, location, practice setting, practice responsibilities, and career stage. One variable which has not been studied is gender, although differences in career patterns for women have been identified (Caffarella & Olson, 1986).

Professions studied using needs assessments include physicians, nurses, pharmacists, and other health professionals for whom CPE is typically mandatory, as well as engineers (Matthias, 1992), for whom CPE is not currently a continued practice requirement. Architecture has been studied, and a number of variables affecting learning activities have been found (Price, Fox, & Blanchard, 1991; Smutz, Kalman, Lindsay, Pietrusko, & Seaman, 1981). However, landscape architecture, a similar profession without mandatory CPE requirements but with a substantial diversity of practice environments (Educational Testing Service, 1991; Marshall, 1981) has not yet been examined.

Methodology

This study used a mail survey among practicing professionals for data collection, followed by quantitative analysis. A pilot study was conducted to develop the survey instrument, using practicing landscape architects and experts in CPE. After

revision of the instrument, a stratified random sample of 650 names was drawn from an available population of 10,103 licensed landscape architects in the United States to receive the survey. The survey included demographic questions and a series of CPE topic items developed from a landscape architecture job analysis survey (Educational Testing Service, 1991). Respondents were asked to rank each topic item on three five-point Likert scales, for current level of competence, usefulness to career and practice, and level of new information needed. Two follow-up contacts were made with the mail-out group, resulting in a return rate of 51.7%.

Data Analysis

As an exploratory study seeking to determine the existence of trends or patterns, this study used categorical analysis and collapsed sub-groups of response categories to investigate the data. Data analysis proceeded using the SPSS/PC+ statistical package. Initial cross-tabulations and contingency tables were developed for each demographic variable (factor) paired with each topic area variable (response) for each Likert scale. Using $p < .05$, 326 significant association pairs were found, of a possible 1350. Counts of significant association pairs were collapsed across demographic variables to compare factors. Counts were then collapsed across responses to compare Likert scale measurements. Counts were also collapsed across topic areas and

factors in relation to Nowlen's (1988) Performance Model. Collapsed category comparisons utilized frequencies and percentages of practically significant association pairs for analysis.

Findings

Individual Variables

The study found that gender, which has been rarely investigated in the CPE literature, appears to be of greater influence than other individual variables on needs assessment measures conducted with learners across all three scales in the study. This finding is particularly interesting because little research has been conducted on differences in professional practice and professional career patterns by gender, although some research has identified differences in more general career patterns for women and men (Caffarella & Olson, 1986). This finding may also indicate gender differences in self-esteem and public admissions of personal competence among landscape architects, similar to overall gender differences at work found by previous researchers (Clark, Caffarella, & Ingram, 1994; Powell, 1993).

By contrast, the study also found that some individual variables seem to have less influence than expected. The literature on professions emphasizes the development of a career through several stages. Yet, *age* and *years of practice*, which

have been linked to career stage, showed little influence beyond measuring current level of competence. The finding for *years of practice* was not surprising because many of the topic areas, although current, were also topic areas which have been relevant to landscape architectural practice for some time. *Age* and *years of practice* exhibited a linear relationship with the response variables scale. As *age* or *years of practice* increased, so did the reported level of competence in the topic area. Again, this finding was not surprising since researchers have linked length of practice as a professional with development of expertise (Schön, 1983).

Cultural Variables

Among the cultural variables, those which relate to job performance (i.e., *primary responsibility*, *role in the firm*, and *type of practice*) showed between 40-50% of association pairs across all three scales. This finding reflects previous research about the influence of experience on competence. This finding may also be indicative of career development patterns among landscape architects which may link to the four stages of professional careers (i.e., apprentice, colleague, mentor, and sponsor) found by Dalton, Thompson, and Price (1977) because the majority of respondents were well-experienced. Further, this finding supports substantial research on adult learners which had found strong interest in practical, work-related learning for the

time spent involved in continuing education activities.

By contrast, *region* and *location* were expected to show stronger associations due to varieties of practice in various environmental situations. However, these variables linked to less than 20% of association pairs. This may indicate that design issues related to the environment, both urban/rural and biological, are less geographically different than landscape architecture professionals assume. It may also indicate that pragmatic issues related to solving day-to-day performance problems are more important than abstract design issues. Overall, the percentages for the cultural variables were markedly larger than those for individual variables. This appears to indicate that landscape architecture professionals see themselves linked to their practice setting or "culture" rather than as independent professionals who just happen to practice in a particular setting.

However, less than one-third of possible association pairs were found on any one of the three scales. This indicates that the demographic variables used do not fully characterize the link between performance and expressed needs. Further research is necessary to more clearly identify specific sub-groups of the individual and cultural variable sets.

When the variable pairs were collapsed to compare the scales, the "Current Level of Competence" Scale revealed the

largest percentage of associations, indicating the demographic variables have the greatest influence on this scale. However, the number of association pairs was not large. For example, less than one-third of possible pairs were found for the "Current Level of Competence" Scale, and even fewer were found for the "Usefulness to Career" Scale and the "Level of Information" Scale (22.67% and 18.44% respectively). This may indicate other undetermined factors were also influencing expressions of need for continuing professional education in addition to the individual and cultural variables examined in this study.

The topic areas of the CPE Survey Instrument were divided into eight categories to match the eight program content areas proposed in Nowlen's Performance Model (1988). Comparing the number of variable association pairs found for each demographic variable to each program content area, no clear patterns could be discerned. However, associations were found between each of the eight program content areas and both sets of demographic variables (i.e., individual and cultural). This seems to indicate that Nowlen's concept of intertwining individual and cultural variables working in a triage process of guided self-assessment with the eight program content areas holds true for the group in this study.

Conclusions

The results of this study showed that an association exists

between demographic variables and expressed CPE needs among landscape architects in 35 states in the United States. The study also revealed differences between types of demographic variables, supporting Nowlen's (1988) Performance Model. However, the association between the performance helix of demographic variables and the topic areas is weak, with associations found for less than one-third of the possible variable pair combinations on the "Current Level of Competence" Scale, and even fewer for the other two scales used in the study. This suggests that Nowlen's Model does not fully explain the interaction between performance and effective CPE programming. Both operational definitions of demographic and topic area variables are needed, as well as exploration of more complex models.

Implications for Research and Practice

This study has broad implications both for research in CPE and for CPE program planning. In terms of CPE research, the study provides an example of needs assessment methodology as a theoretical research tool in addition to the already widespread knowledge base of needs assessment methodology as a planning tool. In addition, the study identifies the need for research that clearly defines and characterizes the individual and cultural variables which affect professional performance. Finally, the study contributes to the theory base in CPE models

by testing Nowlen's (1988) Performance Model and identifying the areas in which gaps exist between the model and practitioner-based data.

For CPE practitioners, the study illuminates the need to ensure that the demographics of assessed sample groups are similar to the group of likely attendees in order to apply assessments in successful CPE programming. While the most important variables identified in this study were applicable primarily to landscape architects, consideration of these variables should be valuable to CPE program planners who work with similar professionals such as architects, interior designers, and planners. Additionally, the study highlights the importance of the cultural variables related to practice setting. When CPE program planners come from outside a professional group, additional care should be taken to fully understand the practice setting variables as part of program development. Further, the study identifies a relationship between demographic variables and commonly used assessment scales. For CPE program planners, care should be taken when identifying needs based on similar scales, particularly when considering gender and expressions of current competence levels.

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